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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/761,024 | 01/20/2004 | Hugh Miller Rawls | | 3118 |

7590 08/16/2005

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EXAMINER

ARK, DARREN W

ART UNIT PAPER NUMBER

3643

DATE MAILED: 08/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|--------------------------------|--------------------------------------|-------------------------------------------|--|
| <h1>Office Action Summary</h1> | Application No. 10/761,024 | Applicant(s) RAWLS, HUGH MILLER | |
| | Examiner Darren W. Ark | Art Unit 3643 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellefson et al. 5,109,628 in view of Chaudoin et al. 4,958,456.

Ellefson et al. discloses providing a carrier fluid (air); providing a first mixture (within 11 which includes various chemicals, dry ice, and volatile chemicals); mixing the first mixture with the carrier fluid to form a second mixture (mixed in 11 and then final mix exits at 18); providing an injector including at least one probe (20, 22) and at least one orifice (opening at end of 20); thrusting the at least one probe into the ground (within a mole or gopher burrow); and injecting the second mixture through the at least one orifice into the ground (when 17 turned on), but Ellefson et al. does not disclose the first mixture comprising solid diatomaceous earth and anhydrous borax. Chaudoin et al. discloses providing a carrier fluid (air from pneumatic distribution; see col. 3, lines 30-47), providing a first mixture of diatomaceous earth (see Abstract) and anhydrous borax (salts of boric acid, borates; most common source of boric acid is borate, sodium tetraborate or borax, which occurs naturally in salt beds; see col. 3, lines 5-20), mixing the first mixture into the carrier fluid to form a second mixture (mixture which is

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ultimately dispersed for treatment), and injecting the mixture into/onto the desired spaces or surfaces. It would have been obvious to a person of ordinary skill in the art to substitute the first mixture of dry ice and volatile insecticide of Ellefson et al. for the first mixture comprising solid diatomaceous earth and anhydrous borate as taught by Chaudoin et al. in order to provide an insecticide which is totally non-toxic to humans and animals and an abrasive substance (diatomaceous earth) causing cuts in the insect cuticle that speeds the absorption of the borate.

3. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellefson et al. 5,109,628 in view of Chaudoin et al. 4,958,456 as applied to claim 1 above, and further in view of Metzner et al. 5,303,502.

Ellefson et al. and Chaudoin et al. disclose the first mixture comprising an abrasive substance comprising diatomaceous earth, but do not disclose the first mixture further comprising glass particles. Metzner et al. discloses a method for preventative protection of materials against soil-dwelling pests comprising the use of one or more barriers of sharp-edged glass particles and may further comprise mixing the glass particles with a carrier material for insecticidal substance which may comprise an insecticidal-active pyrethroid. It would have been obvious to a person of ordinary skill in the art to modify the method of Ellefson et al. and Chaudoin et al. such that the first mixture further comprises glass particles in view of Metzner et al. in order to provide an additional abrasive substance in the first mixture which is capable of lacerating the chitin of the insects so as to expose their internal portions to the boric acid and also dehydrate the insects.

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4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellefson et al. 5,109,628 in view of Chaudoin et al. 4,958,456 as applied to claim 1 above, and further in view of Dawson 4,379,139.

Ellefson et al. and Chaudoin et al. disclose the first mixture comprising an abrasive substance comprising diatomaceous earth, but do not disclose the first mixture further comprising metal filings. Dawson discloses an anticoagulant rodenticide with laceration means comprising any hard substance with jagged edges or edges with acute angles or any suitable shape or size capable of cutting, lacerating, other otherwise severing tissue which would include such things as broken glass, shredded metal, steel wool, metal filings or powder, glass wool of short fiber length, ceramic fragments or fibers, hard nut shells, bone fragments, volcanic glass such as pumice. It would have been obvious to a person of ordinary skill in the art to modify the method of Ellefson et al. and Chaudoin et al. such that the first mixture further comprises metal filings in view of Dawson in order to provide an additional abrasive substance in the first mixture which is capable of lacerating the chitin of the insects so as to expose their internal portions to the boric acid and also dehydrate the insects.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellefson et al. 5,109,628 in view of Chaudoin et al. 4,958,456 as applied to claim 1 above, and further in view of Vander Meer et al. 5,897,859.

Ellefson et al. and Chaudoin et al. disclose that boric acid may be applied by conventional applicator methods and devices such as spraying a solution or slurry or dispersion of boric acid (Chaudonin et al.), but do not disclose the use of the first

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mixture further comprising vegetable oil. Vander Meer et al. discloses that fire ants are particularly attracted to vegetable oils and that an attractant can be formulated with a vegetable oil and a carrier material comprising diatomaceous earth and an active ingredient comprising boric acid or borate. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the method of Ellefson et al. and Chaudoin et al. such that the first mixture further comprises vegetable oil in view of Vander Meer et al. in order to provide an attractant which is sought out by fire ants so as to cause them to readily ingest the borate and thus die.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellefson et al. 5,109,628 in view of Chaudoin et al. 4,958,456 as applied to claim 1 above, and further in view of Knight et al. 5,693,344.

Ellefson et al. and Chaudoin et al. do not disclose the first mixture further comprising Pyrethrin. Knight et al. discloses a hazard-free method for controlling insects using a non-toxic composition comprising diatomaceous earth and using as the insecticide either boric acid which is relatively non-toxic or pyrethrin which may undermine the non-hazardous nature of the of the composition. It would have been obvious to a person of ordinary skill in the art to modify the method of Ellefson et al. and Chaudoin et al. such that the first mixture further comprises Pyrethrin in view of Knight et al. in order to provide an insecticide which improves the effectiveness of the composition and provides a fast-knockdown toxicant.

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7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellefson et al. 5,109,628 in view of Chaudoin et al. 4,958,456 and Metzner et al. 5,303,502 as applied to claim 2 above, and further in view of Dawson 4,379,139.

Ellefson et al., Chaudoin et al., and Metzner et al. disclose the first mixture comprising an abrasive substance comprising diatomaceous earth, but do not disclose the first mixture further comprising metal filings. Dawson discloses an anticoagulant rodenticide with laceration means comprising any hard substance with jagged edges or edges with acute angles or any suitable shape or size capable of cutting, lacerating, other otherwise severing tissue which would include such things as broken glass, shredded metal, steel wool, metal filings or powder, glass wool of short fiber length, ceramic fragments or fibers, hard nut shells, bone fragments, volcanic glass such as pumice. It would have been obvious to a person of ordinary skill in the art to modify the method of Ellefson et al., Chaudoin et al., and Metzner et al. such that the first mixture further comprises metal filings in view of Dawson in order to provide an additional abrasive substance in the first mixture which is capable of lacerating the chitin of the insects so as to expose their internal portions to the boric acid and also dehydrate the insects.

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellefson et al. 5,109,628 in view of Chaudoin et al. 4,958,456 and Meer et al. 5,897,859 as applied to claim 4 above, and further in view of Dawson 4,379,139.

Ellefson et al., Chaudoin et al., and Meer et al. disclose the first mixture comprising an abrasive substance comprising diatomaceous earth, but do not disclose

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the first mixture further comprising metal filings. Dawson discloses an anticoagulant rodenticide with laceration means comprising any hard substance with jagged edges or edges with acute angles or any suitable shape or size capable of cutting, lacerating, other otherwise severing tissue which would include such things as broken glass, shredded metal, steel wool, metal filings or powder, glass wool of short fiber length, ceramic fragments or fibers, hard nut shells, bone fragments, volcanic glass such as pumice. It would have been obvious to a person of ordinary skill in the art to modify the method of Ellefson et al., Chaudoin et al., and Meer et al. such that the first mixture further comprises metal filings in view of Dawson in order to provide an additional abrasive substance in the first mixture which is capable of lacerating the chitin of the insects so as to expose their internal portions to the boric acid and also dehydrate the insects.

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellefson et al. 5,109,628 in view of Chaudoin et al. 4,958,456 and Knight et al. 5,693,344 as applied to claim 5 above, and further in view of Dawson 4,379,139.

Ellefson et al., Chaudoin et al., and Knight et al. disclose the first mixture comprising an abrasive substance comprising diatomaceous earth, but do not disclose the first mixture further comprising metal filings. Dawson discloses an anticoagulant rodenticide with laceration means comprising any hard substance with jagged edges or edges with acute angles or any suitable shape or size capable of cutting, lacerating, other otherwise severing tissue which would include such things as broken glass, shredded metal, steel wool, metal filings or powder, glass wool of short fiber length,

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ceramic fragments or fibers, hard nut shells, bone fragments, volcanic glass such as pumice. It would have been obvious to a person of ordinary skill in the art to modify the method of Ellefson et al., Chaudoin et al., and Knight et al. such that the first mixture further comprises metal filings in view of Dawson in order to provide an additional abrasive substance in the first mixture which is capable of lacerating the chitin of the insects so as to expose their internal portions to the boric acid and also dehydrate the insects.

10. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellefson et al. 5,109,628 in view of Chaudoin et al. 4,958,456 and Dawson 4,379,139 as applied to claim 3 above, and further in view of Vander Meer et al. 5,897,859.

Ellefson et al., Chaudoin et al., and Dawson disclose that boric acid may be applied by conventional applicator methods and devices such as spraying a solution or slurry or dispersion of boric acid (Chaudonin et al.), but do not disclose the use of the first mixture further comprising vegetable oil. Vander Meer et al. discloses that fire ants are particularly attracted to vegetable oils and that an attractant can be formulated with a vegetable oil and a carrier material comprising diatomaceous earth and an active ingredient comprising boric acid or borate. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the method of Ellefson et al., Chaudoin et al., and Dawson such that the first mixture further comprises vegetable oil in view of Vander Meer et al. in order to provide an attractant which is sought out by fire ants so as to cause them to readily ingest the borate and thus die.

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11. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellefson et al. 5,109,628 in view of Chaudoin et al. 4,958,456 and Knight et al. 5,693,344 as applied to claim 5 above, and further in view of Vander Meer et al. 5,897,859.

Ellefson et al., Chaudoin et al., and Knight et al. disclose that boric acid may be applied by conventional applicator methods and devices such as spraying a solution or slurry or dispersion of boric acid (Chaudonin et al.), but do not disclose the use of the first mixture further comprising vegetable oil. Vander Meer et al. discloses that fire ants are particularly attracted to vegetable oils and that an attractant can be formulated with a vegetable oil and a carrier material comprising diatomaceous earth and an active ingredient comprising boric acid or borate. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the method of Ellefson et al., Chaudoin et al., and Knight et al. such that the first mixture further comprises vegetable oil in view of Vander Meer et al. in order to provide an attractant which is sought out by fire ants so as to cause them to readily ingest the borate and thus die.

12. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellefson et al. 5,109,628 in view of Chaudoin et al. 4,958,456, Metzner et al. 5,303,502, and Dawson 4,379,139 as applied to claim 6 above, and further in view of Vander Meer et al. 5,897,859.

Ellefson et al., Chaudoin et al., Metzner et al., and Dawson disclose that boric acid may be applied by conventional applicator methods and devices such as spraying a solution or slurry or dispersion of boric acid (Chaudonin et al.), but do not disclose the use of the first mixture further comprising vegetable oil. Vander Meer et al. discloses

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that fire ants are particularly attracted to vegetable oils and that an attractant can be formulated with a vegetable oil and a carrier material comprising diatomaceous earth and an active ingredient comprising boric acid or borate. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the method of Ellefson et al., Chaudoin et al., Metzner et al. and Dawson such that the first mixture further comprises vegetable oil in view of Vander Meer et al. in order to provide an attractant which is sought out by fire ants so as to cause them to readily ingest the borate and thus die.

13. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellefson et al. 5,109,628 in view of Chaudoin et al. 4,958,456 and Metzner et al. 5,303,502 as applied to claim 2 above, and further in view of Knight et al. 5,693,344.

Ellefson et al., Chaudoin et al., and Metzner et al. do not disclose the first mixture further comprising Pyrethrin. Knight et al. discloses a hazard-free method for controlling insects using a non-toxic composition comprising diatomaceous earth and using as the insecticide either boric acid which is relatively non-toxic or pyrethrin which may undermine the non-hazardous nature of the of the composition. It would have been obvious to a person of ordinary skill in the art to modify the method of Ellefson et al., Chaudoin et al., and Metzner et al. such that the first mixture further comprises Pyrethrin in view of Knight et al. in order to provide an insecticide which improves the effectiveness of the composition and provides a fast-knockdown toxicant.

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14. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellefson et al. 5,109,628 in view of Chaudoin et al. 4,958,456 and Dawson 4,379,139 as applied to claim 3 above, and further in view of Knight et al. 5,693,344.

Ellefson et al., Chaudoin et al., and Dawson do not disclose the first mixture further comprising Pyrethrin. Knight et al. discloses a hazard-free method for controlling insects using a non-toxic composition comprising diatomaceous earth and using as the insecticide either boric acid which is relatively non-toxic or pyrethrin which may undermine the non-hazardous nature of the of the composition. It would have been obvious to a person of ordinary skill in the art to modify the method of Ellefson et al., Chaudoin et al., and Dawson such that the first mixture further comprises Pyrethrin in view of Knight et al. in order to provide an insecticide which improves the effectiveness of the composition and provides a fast-knockdown toxicant.

15. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellefson et al. 5,109,628 in view of Chaudoin et al. 4,958,456 and Meer et al. 5,897,859 as applied to claim 4 above, and further in view of Knight et al. 5,693,344.

Ellefson et al., Chaudoin et al., and Meer et al. do not disclose the first mixture further comprising Pyrethrin. Knight et al. discloses a hazard-free method for controlling insects using a non-toxic composition comprising diatomaceous earth and using as the insecticide either boric acid which is relatively non-toxic or pyrethrin which may undermine the non-hazardous nature of the of the composition. It would have been obvious to a person of ordinary skill in the art to modify the method of Ellefson et al., Chaudoin et al., and Meer et al. such that the first mixture further comprises Pyrethrin in

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view of Knight et al. in order to provide an insecticide which improves the effectiveness of the composition and provides a fast-knockdown toxicant.

16. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellefson et al. 5,109,628 in view of Chaudoin et al. 4,958,456, Metzner et al. 5,303,502, and Dawson 4,379,139 as applied to claim 6 above, and further in view of Knight et al. 5,693,344.

Ellefson et al., Chaudoin et al., Metzner et al., and Dawson do not disclose the first mixture further comprising Pyrethrin. Knight et al. discloses a hazard-free method for controlling insects using a non-toxic composition comprising diatomaceous earth and using as the insecticide either boric acid which is relatively non-toxic or pyrethrin which may undermine the non-hazardous nature of the of the composition. It would have been obvious to a person of ordinary skill in the art to modify the method of Ellefson et al., Chaudoin et al., Metzner et al., and Dawson such that the first mixture further comprises Pyrethrin in view of Knight et al. in order to provide an insecticide which improves the effectiveness of the composition and provides a fast-knockdown toxicant.

17. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellefson et al. 5,109,628 in view of Chaudoin et al. 4,958,456, Meer et al. 5,897,859, and Dawson 4,379,139 as applied to claim 7 above, and further in view of Knight et al. 5,693,344.

Ellefson et al., Chaudoin et al., Meer et al., and Dawson do not disclose the first mixture further comprising Pyrethrin. Knight et al. discloses a hazard-free method for controlling insects using a non-toxic composition comprising diatomaceous earth and

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using as the insecticide either boric acid which is relatively non-toxic or pyrethrin which may undermine the non-hazardous nature of the of the composition. It would have been obvious to a person of ordinary skill in the art to modify the method of Ellefson et al., Chaudoin et al., Meer et al., and Dawson such that the first mixture further comprises Pyrethrin in view of Knight et al. in order to provide an insecticide which improves the effectiveness of the composition and provides a fast-knockdown toxicant.

18. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellefson et al. 5,109,628 in view of Chaudoin et al. 4,958,456, Dawson 4,379,139, and Vander Meer et al. 5,897,859 as applied to claim 9 above, and further in view of Knight et al. 5,693,344.

Ellefson et al., Chaudoin et al., Dawson, and Vander Meer et al. do not disclose the first mixture further comprising Pyrethrin. Knight et al. discloses a hazard-free method for controlling insects using a non-toxic composition comprising diatomaceous earth and using as the insecticide either boric acid which is relatively non-toxic or pyrethrin which may undermine the non-hazardous nature of the of the composition. It would have been obvious to a person of ordinary skill in the art to modify the method of Ellefson et al., Chaudoin et al., Dawson, and Vander Meer et al. such that the first mixture further comprises Pyrethrin in view of Knight et al. in order to provide an insecticide which improves the effectiveness of the composition and provides a fast-knockdown toxicant.

19. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellefson et al. 5,109,628 in view of Chaudoin et al. 4,958,456, Dawson 4,379,139, and Vander

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Meer et al. 5,897,859 as applied to claim 11 above, and further in view of Knight et al. 5,693,344.

Ellefson et al., Chaudoin et al., Dawson, and Vander Meer et al. do not disclose the first mixture further comprising Pyrethrin. Knight et al. discloses a hazard-free method for controlling insects using a non-toxic composition comprising diatomaceous earth and using as the insecticide either boric acid which is relatively non-toxic or pyrethrin which may undermine the non-hazardous nature of the of the composition. It would have been obvious to a person of ordinary skill in the art to modify the method of Ellefson et al., Chaudoin et al., Dawson, and Vander Meer et al. such that the first mixture further comprises Pyrethrin in view of Knight et al. in order to provide an insecticide which improves the effectiveness of the composition and provides a fast-knockdown toxicant.

20. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Youngblood 2,906,056 in view of Chaudoin et al. 4,958,456.

Youngblood discloses providing a carrier fluid (air); providing a first mixture (within 1 is exterminating fluid for fire ants); mixing the first mixture with the carrier fluid to form a second mixture (mixed in 1 and then final mix exits at 3); providing an injector including at least one probe (15, 16) and at least one orifice (17); thrusting the at least one probe into the ground (26); and injecting the second mixture through the at least one orifice into the ground (when 5 is turned on), but Youngblood does not disclose the first mixture comprising solid diatomaceous earth and anhydrous borax. Chaudoin et al. discloses providing a carrier fluid (air from pneumatic distribution; see col. 3, lines 30-

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47), providing a first mixture of diatomaceous earth (see Abstract) and anhydrous borax (salts of boric acid, borates; most common source of boric acid is borate, sodium tetraborate or borax, which occurs naturally in salt beds; see col. 3, lines 5-20), mixing the first mixture into the carrier fluid to form a second mixture (mixture which is ultimately dispersed for treatment), and injecting the mixture into/onto the desired spaces or surfaces. Chaudoin et al. also discloses that boric acid may be applied by conventional applicator methods and devices such as spraying a solution or slurry or dispersion of boric acid. It would have been obvious to a person of ordinary skill in the art to substitute the first mixture of Youngblood for the first mixture comprising solid diatomaceous earth and anhydrous borate which are combined to made suitable for application by spraying as taught by Chaudoin et al. in order to provide an insecticide which is totally non-toxic to humans and animals and an abrasive substance (diatomaceous earth) causing cuts in the insect cuticle that speeds the absorption of the borate.

21. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Youngblood 2,906,056 in view of Chaudoin et al. 4,958,456 as applied to claim 1 above, and further in view of Metzner et al. 5,303,502.

Youngblood and Chaudoin et al. disclose the first mixture comprising an abrasive substance comprising diatomaceous earth, but do not disclose the first mixture further comprising glass particles. Metzner et al. discloses a method for preventative protection of materials against soil-dwelling pests comprising the use of one or more barriers of sharp-edged glass particles and may further comprise mixing the glass

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particles with a carrier material for insecticidal substance which may comprise an insecticidal-active pyrethroid. It would have been obvious to a person of ordinary skill in the art to modify the method of Youngblood and Chaudoin et al. such that the first mixture further comprises glass particles in view of Metzner et al. in order to provide an additional abrasive substance in the first mixture which is capable of lacerating the chitin of the insects so as to expose their internal portions to the boric acid and also dehydrate the insects.

22. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Youngblood 2,906,056 in view of Chaudoin et al. 4,958,456 as applied to claim 1 above, and further in view of Dawson 4,379,139.

Youngblood and Chaudoin et al. disclose the first mixture comprising an abrasive substance comprising diatomaceous earth, but do not disclose the first mixture further comprising metal filings. Dawson discloses an anticoagulant rodenticide with laceration means comprising any hard substance with jagged edges or edges with acute angles or any suitable shape or size capable of cutting, lacerating, other otherwise severing tissue which would include such things as broken glass, shredded metal, steel wool, metal filings or powder, glass wool of short fiber length, ceramic fragments or fibers, hard nut shells, bone fragments, volcanic glass such as pumice. It would have been obvious to a person of ordinary skill in the art to modify the method of Youngblood and Chaudoin et al. such that the first mixture further comprises metal filings in view of Dawson in order to provide an additional abrasive substance in the first mixture which is capable of

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lacerating the chitin of the insects so as to expose their internal portions to the boric acid and also dehydrate the insects.

23. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Youngblood 2,906,056 in view of Chaudoin et al. 4,958,456 as applied to claim 1 above, and further in view of Vander Meer et al. 5,897,859.

Youngblood and Chaudoin et al. disclose that boric acid may be applied by conventional applicator methods and devices such as spraying a solution or slurry or dispersion of boric acid (Chaudoin et al.), but do not disclose the use of the first mixture further comprising vegetable oil. Vander Meer et al. discloses that fire ants are particularly attracted to vegetable oils and that an attractant can be formulated with a vegetable oil and a carrier material comprising diatomaceous earth and an active ingredient comprising boric acid or borate. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the method of Youngblood and Chaudoin et al. such that the first mixture further comprises vegetable oil in view of Vander Meer et al. in order to provide an attractant which is sought out by fire ants so as to cause them to readily ingest the borate and thus die.

24. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Youngblood 2,906,056 in view of Chaudoin et al. 4,958,456 as applied to claim 1 above, and further in view of Knight et al. 5,693,344.

Youngblood and Chaudoin et al. do not disclose the first mixture further comprising Pyrethrin. Knight et al. discloses a hazard-free method for controlling insects using a non-toxic composition comprising diatomaceous earth and using as the

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insecticide either boric acid which is relatively non-toxic or pyrethrin which may undermine the non-hazardous nature of the of the composition. It would have been obvious to a person of ordinary skill in the art to modify the method of Youngblood and Chaudoin et al. such that the first mixture further comprises Pyrethrin in view of Knight et al. in order to provide an insecticide which improves the effectiveness of the composition and provides a fast-knockdown toxicant.

25. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Youngblood 2,906,056 in view of Chaudoin et al. 4,958,456 and Metzner et al. 5,303,502 as applied to claim 2 above, and further in view of Dawson 4,379,139.

Youngblood, Chaudoin et al., and Metzner et al. disclose the first mixture comprising an abrasive substance comprising diatomaceous earth, but do not disclose the first mixture further comprising metal filings. Dawson discloses an anticoagulant rodenticide with laceration means comprising any hard substance with jagged edges or edges with acute angles or any suitable shape or size capable of cutting, lacerating, other otherwise severing tissue which would include such things as broken glass, shredded metal, steel wool, metal filings or powder, glass wool of short fiber length, ceramic fragments or fibers, hard nut shells, bone fragments, volcanic glass such as pumice. It would have been obvious to a person of ordinary skill in the art to modify the method of Youngblood, Chaudoin et al., and Metzner et al. such that the first mixture further comprises metal filings in view of Dawson in order to provide an additional abrasive substance in the first mixture which is capable of lacerating the chitin of the

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insects so as to expose their internal portions to the boric acid and also dehydrate the insects.

26. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Youngblood 2,906,056 in view of Chaudoin et al. 4,958,456 and Meer et al. 5,897,859 as applied to claim 4 above, and further in view of Dawson 4,379,139.

Youngblood, Chaudoin et al., and Meer et al. disclose the first mixture comprising an abrasive substance comprising diatomaceous earth, but do not disclose the first mixture further comprising metal filings. Dawson discloses an anticoagulant rodenticide with laceration means comprising any hard substance with jagged edges or edges with acute angles or any suitable shape or size capable of cutting, lacerating, other otherwise severing tissue which would include such things as broken glass, shredded metal, steel wool, metal filings or powder, glass wool of short fiber length, ceramic fragments or fibers, hard nut shells, bone fragments, volcanic glass such as pumice. It would have been obvious to a person of ordinary skill in the art to modify the method of Youngblood, Chaudoin et al., and Meer et al. such that the first mixture further comprises metal filings in view of Dawson in order to provide an additional abrasive substance in the first mixture which is capable of lacerating the chitin of the insects so as to expose their internal portions to the boric acid and also dehydrate the insects.

27. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Youngblood 2,906,056 in view of Chaudoin et al. 4,958,456 and Knight et al. 5,693,344 as applied to claim 5 above, and further in view of Dawson 4,379,139.

Youngblood, Chaudoin et al., and Knight et al. disclose the first mixture comprising an abrasive substance comprising diatomaceous earth, but do not disclose the first mixture further comprising metal filings. Dawson discloses an anticoagulant rodenticide with laceration means comprising any hard substance with jagged edges or edges with acute angles or any suitable shape or size capable of cutting, lacerating, other otherwise severing tissue which would include such things as broken glass, shredded metal, steel wool, metal filings or powder, glass wool of short fiber length, ceramic fragments or fibers, hard nut shells, bone fragments, volcanic glass such as pumice. It would have been obvious to a person of ordinary skill in the art to modify the method of Youngblood, Chaudoin et al., and Knight et al. such that the first mixture further comprises metal filings in view of Dawson in order to provide an additional abrasive substance in the first mixture which is capable of lacerating the chitin of the insects so as to expose their internal portions to the boric acid and also dehydrate the insects.

28. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Youngblood 2,906,056 in view of Chaudoin et al. 4,958,456 and Dawson 4,379,139 as applied to claim 3 above, and further in view of Vander Meer et al. 5,897,859.

Youngblood, Chaudoin et al., and Dawson disclose that boric acid may be applied by conventional applicator methods and devices such as spraying a solution or slurry or dispersion of boric acid (Chaudonin et al.), but do not disclose the use of the first mixture further comprising vegetable oil. Vander Meer et al. discloses that fire ants are particularly attracted to vegetable oils and that an attractant can be formulated with

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a vegetable oil and a carrier material comprising diatomaceous earth and an active ingredient comprising boric acid or borate. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the method of Youngblood, Chaudoin et al., and Dawson such that the first mixture further comprises vegetable oil in view of Vander Meer et al. in order to provide an attractant which is sought out by fire ants so as to cause them to readily ingest the borate and thus die.

29. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Youngblood 2,906,056 in view of Chaudoin et al. 4,958,456 and Knight et al. 5,693,344 as applied to claim 5 above, and further in view of Vander Meer et al. 5,897,859.

Youngblood, Chaudoin et al., and Knight et al. disclose that boric acid may be applied by conventional applicator methods and devices such as spraying a solution or slurry or dispersion of boric acid (Chaudonin et al.), but do not disclose the use of the first mixture further comprising vegetable oil. Vander Meer et al. discloses that fire ants are particularly attracted to vegetable oils and that an attractant can be formulated with a vegetable oil and a carrier material comprising diatomaceous earth and an active ingredient comprising boric acid or borate. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the method of Youngblood, Chaudoin et al., and Knight et al. such that the first mixture further comprises vegetable oil in view of Vander Meer et al. in order to provide an attractant which is sought out by fire ants so as to cause them to readily ingest the borate and thus die.

30. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Youngblood 2,906,056 in view of Chaudoin et al. 4,958,456, Metzner et al. 5,303,502,

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and Dawson 4,379,139 as applied to claim 6 above, and further in view of Vander Meer et al. 5,897,859.

Youngblood, Chaudoin et al., Metzner et al., and Dawson disclose that boric acid may be applied by conventional applicator methods and devices such as spraying a solution or slurry or dispersion of boric acid (Chaudoin et al.), but do not disclose the use of the first mixture further comprising vegetable oil. Vander Meer et al. discloses that fire ants are particularly attracted to vegetable oils and that an attractant can be formulated with a vegetable oil and a carrier material comprising diatomaceous earth and an active ingredient comprising boric acid or borate. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the method of Youngblood, Chaudoin et al., Metzner et al. and Dawson such that the first mixture further comprises vegetable oil in view of Vander Meer et al. in order to provide an attractant which is sought out by fire ants so as to cause them to readily ingest the borate and thus die.

31. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Youngblood 2,906,056 in view of Chaudoin et al. 4,958,456 and Metzner et al. 5,303,502 as applied to claim 2 above, and further in view of Knight et al. 5,693,344.

Youngblood, Chaudoin et al., and Metzner et al. do not disclose the first mixture further comprising Pyrethrin. Knight et al. discloses a hazard-free method for controlling insects using a non-toxic composition comprising diatomaceous earth and using as the insecticide either boric acid which is relatively non-toxic or pyrethrin which may undermine the non-hazardous nature of the of the composition. It would have been

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obvious to a person of ordinary skill in the art to modify the method of Youngblood, Chaudoin et al., and Metzner et al. such that the first mixture further comprises Pyrethrin in view of Knight et al. in order to provide an insecticide which improves the effectiveness of the composition and provides a fast-knockdown toxicant.

32. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Youngblood 2,906,056 in view of Chaudoin et al. 4,958,456 and Dawson 4,379,139 as applied to claim 3 above, and further in view of Knight et al. 5,693,344.

Youngblood, Chaudoin et al., and Dawson do not disclose the first mixture further comprising Pyrethrin. Knight et al. discloses a hazard-free method for controlling insects using a non-toxic composition comprising diatomaceous earth and using as the insecticide either boric acid which is relatively non-toxic or pyrethrin which may undermine the non-hazardous nature of the of the composition. It would have been obvious to a person of ordinary skill in the art to modify the method of Youngblood, Chaudoin et al., and Dawson such that the first mixture further comprises Pyrethrin in view of Knight et al. in order to provide an insecticide which improves the effectiveness of the composition and provides a fast-knockdown toxicant.

33. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Youngblood 2,906,056 in view of Chaudoin et al. 4,958,456 and Meer et al. 5,897,859 as applied to claim 4 above, and further in view of Knight et al. 5,693,344.

Youngblood, Chaudoin et al., and Meer et al. do not disclose the first mixture further comprising Pyrethrin. Knight et al. discloses a hazard-free method for controlling insects using a non-toxic composition comprising diatomaceous earth and using as the

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insecticide either boric acid which is relatively non-toxic or pyrethrin which may undermine the non-hazardous nature of the of the composition. It would have been obvious to a person of ordinary skill in the art to modify the method of Youngblood, Chaudoin et al., and Meer et al. such that the first mixture further comprises Pyrethrin in view of Knight et al. in order to provide an insecticide which improves the effectiveness of the composition and provides a fast-knockdown toxicant.

34. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Youngblood 2,906,056 in view of Chaudoin et al. 4,958,456, Metzner et al. 5,303,502, and Dawson 4,379,139 as applied to claim 6 above, and further in view of Knight et al. 5,693,344.

Youngblood, Chaudoin et al., Metzner et al., and Dawson do not disclose the first mixture further comprising Pyrethrin. Knight et al. discloses a hazard-free method for controlling insects using a non-toxic composition comprising diatomaceous earth and using as the insecticide either boric acid which is relatively non-toxic or pyrethrin which may undermine the non-hazardous nature of the of the composition. It would have been obvious to a person of ordinary skill in the art to modify the method of Youngblood, Chaudoin et al., Metzner et al., and Dawson such that the first mixture further comprises Pyrethrin in view of Knight et al. in order to provide an insecticide which improves the effectiveness of the composition and provides a fast-knockdown toxicant.

35. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Youngblood 2,906,056 in view of Chaudoin et al. 4,958,456, Meer et al. 5,897,859, and

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Dawson 4,379,139 as applied to claim 7 above, and further in view of Knight et al. 5,693,344.

Youngblood, Chaudoin et al., Meer et al., and Dawson do not disclose the first mixture further comprising Pyrethrin. Knight et al. discloses a hazard-free method for controlling insects using a non-toxic composition comprising diatomaceous earth and using as the insecticide either boric acid which is relatively non-toxic or pyrethrin which may undermine the non-hazardous nature of the of the composition. It would have been obvious to a person of ordinary skill in the art to modify the method of Youngblood, Chaudoin et al., Meer et al., and Dawson such that the first mixture further comprises Pyrethrin in view of Knight et al. in order to provide an insecticide which improves the effectiveness of the composition and provides a fast-knockdown toxicant.

36. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Youngblood 2,906,056 in view of Chaudoin et al. 4,958,456, Dawson 4,379,139, and Vander Meer et al. 5,897,859 as applied to claim 9 above, and further in view of Knight et al. 5,693,344.

Youngblood, Chaudoin et al., Dawson, and Vander Meer et al. do not disclose the first mixture further comprising Pyrethrin. Knight et al. discloses a hazard-free method for controlling insects using a non-toxic composition comprising diatomaceous earth and using as the insecticide either boric acid which is relatively non-toxic or pyrethrin which may undermine the non-hazardous nature of the of the composition. It would have been obvious to a person of ordinary skill in the art to modify the method of Youngblood, Chaudoin et al., Dawson, and Vander Meer et al. such that the first mixture

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further comprises Pyrethrin in view of Knight et al. in order to provide an insecticide which improves the effectiveness of the composition and provides a fast-knockdown toxicant.

37. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Youngblood 2,906,056 in view of Chaudoin et al. 4,958,456, Dawson 4,379,139, and Vander Meer et al. 5,897,859 as applied to claim 11 above, and further in view of Knight et al. 5,693,344.

Youngblood, Chaudoin et al., Dawson, and Vander Meer et al. do not disclose the first mixture further comprising Pyrethrin. Knight et al. discloses a hazard-free method for controlling insects using a non-toxic composition comprising diatomaceous earth and using as the insecticide either boric acid which is relatively non-toxic or pyrethrin which may undermine the non-hazardous nature of the of the composition. It would have been obvious to a person of ordinary skill in the art to modify the method of Ellefson et al., Chaudoin et al., Dawson, and Vander Meer et al. such that the first mixture further comprises Pyrethrin in view of Knight et al. in order to provide an insecticide which improves the effectiveness of the composition and provides a fast-knockdown toxicant.

Conclusion

38. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bessette et al. 6,713,518 discloses that diatomaceous earth is a mild abrasive and desiccant that abrades the cuticle and adsorbs the outer epicuticular wax layer of several kinds of insects and that some insects that lose the protective wax layer under dry conditions succumb within hours from evaporative loss of body water through the remaining integument; Evans, II 4,756,118 discloses a method for destruction of imported fire ants incorporating the use and application of specific compounds and mixtures of hydrocarbons, pyrethroids, insecticides, oxidizing agents, and/or vaporizing liquids; Dolman 2,195,696 discloses a spray composition which contributes improved wetting, spreading and sticking characteristic to an aqueous spray carrying substantially water insoluble solid insecticides in suspension wherein the substantially water insoluble solid insecticide coating materials that have been successfully used include oils having a fatty acid content, such as vegetable oils.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Darren W. Ark whose telephone number is (571) 272-6885. The examiner can normally be reached on M-Th, 8:00am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter M. Poon can be reached on (571) 272-6891. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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